

METHOD FOR PREPARING POLYMERS CONTAINING CYCLOPENTANONE
STRUCTURES

Abstract of the Disclosure

A method to electrolytically polymerize aromatic hydrocarbons and oxidize cyclopentane structures within the hydrocarbons into cyclopentanone structures is disclosed including a method to electrolyse fluorene in the presence of an ester to produce poly(9-fluorenone). A method to electrolytically oxidize polymers having cyclopentane structures to polymers having cyclopentanone structures is also disclosed including a method to electrolyze poly(fluorene) to produce poly(9-fluorenone). These methods may include performing two separate and independent electrolysis steps to prepare higher yield cyclopentanone structures. In addition, a method to chemically oxidize polymers containing cyclopentane structures into polymers containing cyclopentanone structures is disclosed, including a method to oxidize poly(fluorene), with a chemically prepared oxidizing agent, to produce poly(9-fluorenone).